Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A method for adapting to changes affecting a wireless signal[[,]] comprising:

detecting an amount of motion of a communication device communicating the wireless signal or an external object in a signal path based on a measurement of calculating a metric of a modulated signal, the metric indicative of a change in the signaling path as a function of a change in at least one modulation attribute of the modulated signal, the modulation attribute comprised of being at least one of amplitude, frequency, or and phase;

selecting a parameter adjustment, based on the detected motion, of to be adjusted from a group comprising at least one of: an antenna mode, a power level, a forward error correction (FEC) coding rate, a number of modulation symbols, and a data transfer rate; and

adjusting performing the parameter adjustment based on the metric to compensate for the changes affecting the signaling path, the adjusting including at least one of:

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~~minimizing the data transfer rate while maintaining the signal path,~~

~~minimizing a power level while maintaining the signal path,~~

~~adjusting the forward error correction coding rate,~~

~~adjusting the number of modulation symbols, or~~

~~adjusting the mode of a mobile station multi-mode antenna.~~

2.   (Currently amended)   The method as in Claim 1, wherein the detecting is performed ~~metric is calculated~~ by a mobile station.

3. - 4. (Canceled).

5.   (Currently amended)   The method as in Claim 1, wherein the ~~metric~~ detecting is ~~calculated from~~ based on a signal in an automatic gain control (AGC) loop.

6.   (Currently amended)   The method as in Claim 5, wherein the ~~metric~~ detecting is a function of a statistic of the signal in the AGC loop.

7.   (Currently amended)   The method as in Claim 6, wherein the statistic that is used is variance.

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8. (Currently amended) The method as in Claim 1, wherein the ~~metric~~ <u>detecting</u> is ~~calculated from~~ <u>based on</u> a phase error signal produced by at least one of a delay lock loop, matched filter, or correlator.

9. (Currently amended) The method as in Claim 8, wherein the ~~metric~~ <u>detecting</u> is a function of a statistic of the phase error signal.

10. (Currently amended) The method as in Claim 9, wherein the statistic <u>that is used</u> is variance.

11. (Currently amended) The method as in Claim 1, wherein the metric is ~~calculated from~~ <u>based on</u> a frequency error signal in a frequency control loop.

12. (Currently amended) The method as in Claim 11, wherein the ~~metric~~ <u>detecting</u> is a function of a statistic of the frequency error signal.

13. (Currently amended) The method as in Claim 12, wherein the statistic <u>that is used</u> is variance.

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14.   (Currently amended)   The method as in Claim 1, ~~further comprising~~ wherein the detecting includes:

comparing the metric to a threshold level.

15.   (Canceled).

16.   (Currently amended)   The method as in Claim 1, wherein the ~~adjusting~~ selecting the parameter adjustment includes selecting the ~~an~~ antenna mode comprises changing from directive to omni-directional.

17.   (Currently amended)   The method as in Claim 1, wherein the ~~adjusting~~ selecting the parameter adjustment includes selecting the ~~an~~ antenna mode comprises changing from omni-directional to directive.

18.   (Canceled).

19.   (Currently amended)   The method as in Claim 1, wherein the ~~adjusting~~ selecting the parameter adjustment includes selecting to reduce ~~reducing~~

at least one of the FEC coding rate, or the number of modulation symbols, to a minimum level while maintaining the signal path.

20. (Canceled).

21. (Currently amended) An apparatus for adapting to changes affecting a wireless signal, comprising:

a processing unit configured to <u>detect an amount of motion of a communication device communicating the wireless signal or an external object in a signal path based on a measurement of</u> ~~calculate~~ a metric of a modulated signal, ~~the metric indicative of a change in the signaling path as a function of a change in at least one modulation attribute of the modulated signal, the modulation~~ attribute <u>comprised of</u> ~~being~~ at least one of amplitude, frequency, or phase; and

a compensator configured to ~~adjust at least one~~ <u>make a</u> signaling parameter <u>adjustment, responsive to motion detected by the processing unit, of at lease one of</u> ~~selected from a group comprising~~ an antenna mode, a forward error correction (FEC) coding rate, a number of modulation symbols, and a data transfer rate~~;~~

~~the adjusting based on the metric to compensate for the changes affecting the signaling path, the adjusting including at least one of:~~

~~minimizing the data transfer rate while maintaining the signal path,~~

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minimizing a power level while maintaining the signal path,

adjusting the forward error correction coding rate, or

adjusting the number of modulation symbols.

22. (Currently amended) The apparatus as in Claim 21, ~~wherein the processing unit is located in~~ <u>configured as</u> a mobile station.

23. - 24. (Canceled).

25. (Currently amended) The apparatus as in Claim 21, wherein the processing unit is configured to ~~calculate the metric from~~ <u>detect motion based on</u> a signal in an automatic gain control (AGC) loop.

26. (Currently amended) The apparatus as in Claim 25, wherein the <u>processing unit is configured to detect motion as</u> ~~metric is~~ a function of a statistic of the signal in the AGC loop.

27. (Currently amended) The apparatus as in Claim 26, wherein the <u>processing unit is configured to use</u> ~~statistic is~~ variance <u>as the statistic</u>.

28. (Currently amended)   The apparatus as in Claim 21, wherein the processing unit is configured to ~~calculate the metric from~~ detect motion based on a phase error signal produced by at least one of a delay lock loop, a matched filter, or a correlator.

29. (Currently amended)   The apparatus as in Claim 28, wherein the processing unit is configured to detect motion as a function of a statistic of the phase error signal.

30. (Currently amended)   The apparatus as in Claim 29, wherein the processing unit is configured to use ~~statistic is~~ variance as the statistic.

31. (Currently amended)   The apparatus as in Claim 21, wherein the processing unit is configured to ~~calculate the metric from~~ detect motion based on a frequency error signal in a frequency control loop.

32. (Currently amended)   The apparatus as in Claim 31, wherein the ~~metric is~~ processing unit is configured to detect motion as a function of a statistic of the frequency error signal.

33. (Currently amended) The apparatus as in Claim 32, wherein the processing unit is configured to use ~~statistic is~~ variance as the statistic.

34. (Currently amended) The apparatus as in Claim 21, wherein the processing unit is configured to detect motion using ~~compare the metric to~~ a comparison threshold level.

35. (Previously presented) The apparatus as in Claim 21, further comprising:

an antenna having a changeable antenna mode, wherein the compensator is configured to change the antenna mode.

36. (Currently amended) The apparatus as in Claim 35, wherein the compensator is configured to change the antenna mode ~~from~~ between directive ~~to~~ and omni-directional modes.

37. (Canceled).

38. (Canceled).

39.   (Previously presented)   The apparatus as in Claim 21, wherein the compensator is configured to reduce at least one of the FEC coding rate, or the number of modulation symbols, to a minimum level while maintaining the signal path.

40. - 41.   (Canceled).

42.   (Currently amended)   A   computer-readable   storage   medium containing a set of instructions for a general purpose computer, the set of instructions comprising:

a signal adaptation code segment configured to cause a processor to control a signaling path to adapt to changes affecting the signaling path,

a ~~calculating~~ detection code segment configured to detect an amount of motion of a communication device communicating the wireless signal or an external object in a signal path based on a measurement of ~~calculate~~ a metric of a modulated signal ~~indicative of a change in the signaling path as a function of a change in at least one modulation attribute of the modulated signal, the modulation~~ attribute comprised of ~~being~~ at least one of amplitude, frequency, ~~or~~ and phase; and

an adjusting code segment configured to ~~adjust at least one~~ make a signaling parameter adjustment, responsive to motion detected by the detecting code

segment, of at lease one of ~~selected from a group comprising~~ an antenna mode, a forward error correction (FEC) coding rate, a number of modulation symbols, and a data transfer rate~~, the adjusting based on the metric to compensate for the changes affecting the signaling path, the adjusting including at least one of:~~

~~minimizing the data transfer rate while maintaining the signal path,~~

~~minimizing a power level while maintaining the signal path,~~

~~adjusting the forward error correction coding rate,~~

~~adjusting the number of modulation symbols, or~~

~~adjusting the mode of a mobile station multi-mode antenna.~~